

CLAIMS

1. A thermocrosslinkable resin dispersion
which comprises a continuous phase comprising an
5 aqueous medium and a dispersed phase distributed therein
said dispersed phase comprising particles (I) of a
resin component and particles (II) of a crosslinking agent
as separately dispersed from the particles (I),
said resin component comprising, as an essential
10 constituent thereof, a modified polyolefin resin (a) or a
mixture thereof with a vinyl resin (b),
said resin (a) having a number average molecular
weight of at least 1,500 and having at least one functional
group species selected from the group consisting of
15 carboxyl, hydroxyl, mercapto, amino, isocyanate and
carbodiimide groups,
said resin (b) having a number average molecular
weight of 700 to 40,000 and a glass transition temperature
of -65 to 40°C, and
20 said crosslinking agent having at least two groups
reactive with said resin (a).
2. The dispersion according to Claim 1,
wherein the resin (a) is a modification of a
25 polyolefin resin (a0) having a number average molecular
weight of 1,500 to 40,000.
3. The dispersion according to Claim 2,
wherein the resin (a0) is a thermally degraded
30 polyolefin.
4. The dispersion according to Claim 1, 2 or 3,
wherein the resin (a) is a carboxy-modified
polyolefin resin (a1).

5. The dispersion according to Claim 1, 2 or 3,
wherein the resin (a) is a higher-order polyolefin
resin modification (a2) derived from a carboxy-modified
polyolefin resin (a1).

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6. The dispersion according to Claim 4 or 5,
wherein the resin (a1) is a polyolefin modified with
an unsaturated dicarboxylic acid or the anhydride thereof.

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7. The dispersion according to Claim 4, 5 or 6,
wherein the resin (a1) has an acid value of 5 to 100
mg KOH/g.

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8. The dispersion according to Claim 5,
wherein the resin (a2) comprises at least one
modified polyolefin resin selected from the group
consisting of hydroxyl-modified polyolefin resins,
mercapto-modified polyolefin resins, amino-modified
polyolefin resins, isocyanate-modified polyolefin resins
and carbodiimide-modified polyolefin resins.

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9. The dispersion according to any one of Claims 4
to 8,

wherein the resin (a1) or (a2) comprises at least one
polymer moiety with a number average molecular weight of at
least 300.

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10. The dispersion according to Claim 9,
wherein the polymer comprises at least one species
selected from the group consisting of polyethers,
polyesters, polyamides and polyurethanes.

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11. The dispersion according to Claim 9 or 10,
wherein said polymer has at least one carboxy-
reactive group selected from the group consisting of

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hydroxyl, mercapto, amino, isocyanate and carbodiimide groups.

5 12. The dispersion according to Claim 9, 10 or 11,
 wherein said polymer has a HLB value of at least 6.

 13. The dispersion according to any one of Claims 1
 to 12,
 wherein the crosslinking agent has at least two
10 reactive groups selected from the group consisting of
 hydroxyl, amino, epoxy and carbodiimide groups.

 14. The dispersion according to any one of Claims 1
 to 13,
15 wherein said resin component is a mixture of the
 resins (a) and (b).

 15. The dispersion according to Claim 14,
 wherein said mixture contains 1 to 50% by weight of
20 the resin (b).

 16. The dispersion according to Claim 14 or 15,
 wherein the resin (b) is a polymer derived from at
 least one ethylenically unsaturated monomer selected from
25 the group consisting of unsaturated hydrocarbons, alkyl
 (meth)acrylates, carboxyl group-containing unsaturated
 monomers and salts thereof.

 17. The dispersion according to any one of Claims 1
30 to 16,
 wherein said resin component has a melting point or
 thermosoftening point of -45 to 120°C.

 18. The dispersion according to any one of Claims 1
35 to 17,

which further comprises 1 to 50% by weight, based on the weight of the resin (a), of an organic solvent.

19. The dispersion according to Claim 18,
5 wherein said solvent comprises one or more solvents selected from the group consisting of hydrocarbons, alcohols, ethers, ketones, esters and amides.

20. The dispersion according to any one of Claims 1
10 to 19,
which further comprises at least one additive selected from the group consisting of colorants, dispersants, catalysts, fillers, flattening agents, flame retardants, antioxidants, ultraviolet absorbers and
15 hydrolysis inhibitors.

21. The dispersion according to any one of Claims 1
to 20,
wherein said particles (I) and (II) are contained
20 therein in a weight ratio of 99/1 to 50/50 and at a total concentration of 5 to 60% based on the weight of the dispersion.

22. The dispersion according to any one of Claims 1
25 to 21,
which comprises, as essential constituents, an aqueous resin component dispersion (A) comprising said resin (a) or a mixture thereof with said resin (b), if necessary together with an organic solvent, and an aqueous
30 dispersion (B) of said crosslinking agent.

23. A primer for polyolefin plastics products
which comprises the dispersion according to any one
of Claims 1 to 22.

24. A method of coating
which comprises applying the dispersion according to
any one of Claims 1 to 22 to polyolefin plastics products.

5 25. The method according to Claim 24,
 wherein a topcoating composition is or an
 intermediate coating composition and a topcoating
 composition are further applied onto the surface of the
 coat film formed from said dispersion after drying or
10 baking thereof or by the wet-on-wet technique.

 26. The method according to Claim 24 or 25,
 wherein said dispersion applied onto said products is
 heated to a temperature of 60 to 180°C for crosslinking of
15 said resin component with said crosslinking agent.

 27. A coated polyolefin plastics product
 obtained by the method according to Claim 24, 25 or
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